Approved For Release 2001/04/23 : CIA-RDP78-02820A000800050008-0

The Files: Contract No: 672, T.O. 6 21 August 1962

25X1A9a [redacted]

Trip Report - Development of HS-5 Hand Crank Generator

1. Project Description:

The HS-5 is to be a hand crank generator which will have an output of approximately 40 watts at a constant current of 2.5 amperes into a self-contained 12 volt nickel-cadmium battery. The two generators being fabricated under this contract will not be in a final package in that the battery pack and control electronics will be packaged apart from the basic generator. These two units will be used for feasibility testing to determine the practicability (both operationally and technically) of such a device.

2. Contractual Information:

a. Initial Cost: $4,992.00
b. Initiation Date: 15 June 1962
c. Completion Date: 5 October 1962
d. Deliverable Items: 2 each Engineering Models
Final Report

3. Date of Meeting: 9 August 1962

4. Place of Meeting: [redacted] 25X1A

5. Persons Attending:

Agency	Non-Agency
25X1A9a [redacted]	[redacted] 25X1A5a1

6. Contractor's Performance:

a. On Schedule and Expected to Remain So: Yes
b. Within Obligated Funds and Expected to Remain So: Yes
c. Satisfactory Technical Progress: Yes

Approved For Release 2001/04/23 : CIA-RDP78-02820A000800050008-0

Approved For Release 2001/04/23 : CIA-RDP78-02820A000800050008-0

SUBJECT: Trip Report - Development of HG-5 Hand Crank Generator

The HG-5 is an off-shoot of the HHP-1 developed by [redacted] for TSD and is essentially two HG-3's back-to-back. Therefore, the mechanical and electrical characteristics of the HG-5 are not new. However, the idea of paralleling a battery made up of sealed nickel cadmium cells across the HG-5 has not yet been evaluated in practice and could prove to be a source of trouble. 25X1A5a1

The battery pack selected to be used in the HG-5 is made up of ten S-103 (Size F) cells manufactured by the [redacted]. These cells are rated at 5.6 AH at the five hour rate and 4.8 AH at the one hour rate. The manufacturer's recommended charging rate is 560 ma for 14 hours. If this charging rate is exceeded, the cells can be damaged. However, the cells can be charged at a higher rate (2.5 amperes in the case of the HG-5) providing the cells are not over-charged. Since the terminal voltage of a nickel cadmium cell rises during a charging cycle, it is possible to avoid overcharge by monitoring the terminal voltage. 25X1A5a1

A fully charged 10 cell battery will have a terminal voltage of about 15.5 to 16 volts. The HG-5 will have circuitry that will monitor the terminal voltage of the battery and when it reaches 14 volts, a red lamp will come on. This will be an indication for an operator to stop cranking. Additionally, the HG-5 will have a green light to indicate that the generator is delivering 2.5 amperes into the battery.

25X1A5a1 Mr. [redacted] stated that the generators would be delivered in October providing all the necessary components are received on schedule.

[redacted] 25X1A9a

Distribution:
R&D Subject File
Inspection Branch/PD/OL
R&D Lab
OC-T
Monthly (2)
EP Chrono

OC-E/R&D-EP:CWS:mah (retyped 4 Sept. 1962)

Approved For Release 2001/04/23 : CIA-RDP78-02820A000800050008-0